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(71) Applicant: KOKUSAI ELECTRIC CO LTD

(72) Inventor:
HIURA KAZUO
HAMAOKA KIYOHICO
TANABE MIKIO

(54) INFRARED HEAT TREATMENT APPARATUS FOR SEMICONDUCTOR WAFER

(57) Abstract:

PURPOSE: To reduce a heat loss and even the temperature of the surface of a wafer by a method wherein floating gas outlets and rotating gas outlets are provided, and a wafer being gas-supported is rotated during a predetermined period of heat treatment.

CONSTITUTION: A wafer 2 is disposed at a predetermined position. Thereupon, the wafer 2 is rotated in a state of floatation, while being in close proximity to the surface of a retaining plate 1, by virtue of the gas jetting out of floating gas outlets 5. The wafer 2 is furthermore forced from every direction toward the central portion by the gas emitting from positioning gas outlets 4. Then the wafer 2 halts and remains static at a position where the pushing forces are well balanced. The gas is spouted from rotating gas outlets 6 which are arranged at equal spacings on the inside concentric circle neighbouring to the circle defined by the gas outlets 5. As a result, the wafer 2 being in a state of floatation rotates in such manner that the center of the wafer 2 is retained by means of the positioning gas. In this condition, the infrared irradiation is effected, whereby there is no partial

thermal loss caused by the contact with solid substances and it is possible to make uniform the temperature of the wafer surface.

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